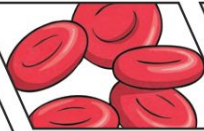


# Year 6 Knowledge Organiser

## Science - Staying Alive

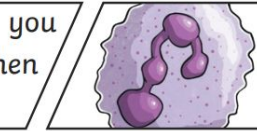
Q1. What is blood and why is it essential for life?

Plasma is liquid. The other parts of your blood are solid.

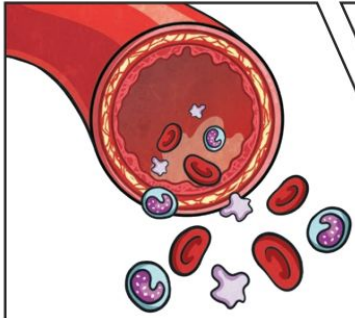


Red blood cells carry oxygen through your body.

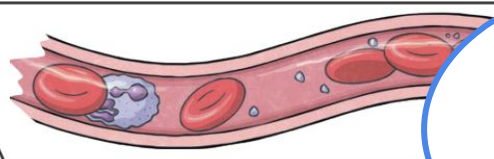
Platelets help you stop bleeding when you get hurt.



White blood cells fight infection when you're sick.



The liquid part of blood contains water and protein. This is called plasma.



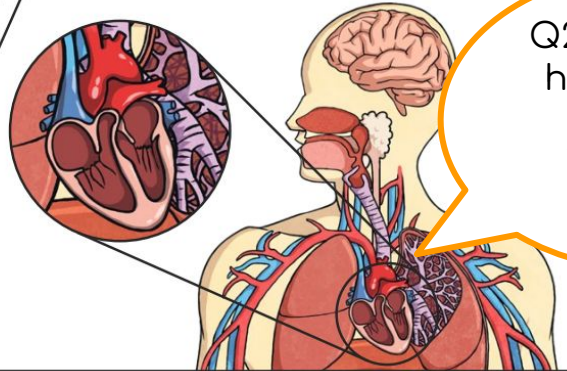
Q4. How are nutrients and water transported in animals and humans?

Blood transports:

- gases (mostly oxygen and carbon dioxide);
- **nutrients** (including water);
- waste products.

The **heart** pumps blood to the lungs to get oxygen.

It then pumps this **oxygenated blood** around the body.



Q2. Why is the heart one of the most important organs?

### Key Vocabulary

Heart: muscle, aorta, arteries, veins.

Blood: red blood cells (carry oxygen/carbon dioxide), white blood cells (protect against infections), platelets (repair damaged cells/help clot wounds), plasma (watery substance that enables the blood to move easily).

Diet - balanced diet, proteins, carbohydrates, vitamins, minerals, fats, fibre, calcium.

Exercise - regular aerobic exercise good for the body

Healthy - in a good physical or mental condition

Drugs - can be harmful to the body



The circulatory system is a network within the body that consists of blood, blood vessels, and the heart. It supplies tissues in the body with nutrients and oxygen, and also transports hormones and removes waste products that the body doesn't need.

**Regular exercise:**

- strengthens muscles including the heart muscle;
- improves circulation;
- increases the amount of oxygen around the body;
- releases brain chemicals which help you feel calm and relaxed;
- helps you sleep more easily;
- strengthens bones.

It can even help to stop us from getting ill.



Q5. What is a healthy lifestyle?

A healthy diet involves eating the right types of **nutrients** in the right amounts.



**Drugs, alcohol** and smoking have negative effects on the body.

Q3. What is the circulatory system?

Your heart pumps blood all the way around your body



**Heart**

Your heart is a hard working muscle that pumps blood to every part of your body. Feel your pulse to check how fast your heart beats.

- Blood is pumped around your body by your heart through tubes which get smaller and smaller.
- These tubes are called blood vessels. The biggest tubes are called arteries and veins.

**Arteries**

Arteries carry bright red blood full of oxygen from your heart to all parts of your body.

**Capillaries**

These are very tiny tubes that join arteries to veins.

**Veins**

Veins collect blood from the capillaries and carry it back to your heart and lungs to get more oxygen. The blood in your veins is darker in colour because of low oxygen levels.

**Lungs**

The right side of your heart sends blood to the lungs to pick up oxygen. Bright red blood full of oxygen then returns to the left side of your heart ready to be pumped out around the body in the arteries.

**Inside our blood**

When red blood cells carry oxygen it makes your blood bright red. White blood cells help fight infections.



red blood cell



white blood cell

- Blood carries nutrients from food around your body which helps you grow.
- Platelets make your blood stickier to help it clot.



platelets

